Transfer of epitaxial oxide films on non-adapted substrates

Ulrike Lüders*[1]

[1]Laboratoire de cristallographie et sciences des matériaux (CRISMAT) – UMR 6508 CNRS-ENSICAEN – Université de Caen 14050 Caen, France

Résumé

Oxides show a range of unique properties, presupposing a monocrystalline state to increase their functionality. For thin films especially of perovskite oxides, this monocrystalline state can be achieved by epitaxial growth, but only on structurally and chemically adapted substrates. However, in many cases, and especially in the advent of integration of these oxides in CMOS technology, monocrystalline films have to be integrated on Si or other substrates, not being adapted for epitaxial growth. One of the possible approaches is using a sacrificial layer, allowing to detach the oxide film from the growth substrate and relocating it on the functional substrate. In this presentation, I will show some recent results on this technique and discuss its advantages and its limitation for the use of ferromagnetic (La,Sr)MnO3 thin films.

*Intervenant